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**REMARKS**

**1. Election/Restrictions**

The Applicants affirm the provisional election of Group I (claims 1-21). Accordingly, claim 22 stands withdrawn.

**2. Claim Rejections - 35 U.S.C. § 112**

Claim 15 has been rejected under 35 U.S.C. § 112, first and second paragraphs. In particular, the Examiner has indicated that claim 15 is not clear in reciting that the claimed conforming immersion medium is glass.

In the application, the Applicants have given particular meaning to the term "conforming immersion medium." As set forth at page 5, line 14 *et seq.*, a conforming immersion medium is a material that exhibits "the ability to maintain an unbroken state when disposed between a lens and a wafer" ... and ... "[c]onforming immersion mediums can maintain their unbroken state (e.g., the medium does not split apart as flowable liquids would) even in the presence of a deforming pressure applied on the medium by, for example, a lens of a lithography system." Also, conforming immersion mediums generally exhibit a resistance to being moved.

Thus, conforming immersion mediums, as defined by the Applicant, are distinguishable from readily flowable liquids (e.g., conventional liquid immersion mediums of water and polyfluoroethers) and gases, which have no elasticity and no resiliency when deformed.

At least three subclasses of conforming immersion mediums that fall within the scope of conforming immersion mediums, as used by the Applicants, are identified in the application. These subclasses include hard materials, compliant materials and plastically deforming materials. For the hard materials, various glasses (e.g., quartz and fused silica) are specifically identified as materials that qualify as conforming immersion mediums (page 5, lines 25-32, among other locations).

It is submitted that the subject matter of claim 15 is adequately described in the application such that one of ordinary skill in the art would recognize that the Applicants

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had possession of the claimed invention at the time that the application was filed, and that claim 15 particularly points out and distinctly claims the subject matter that the Applicants regard as the invention. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 112 is respectfully requested.

**3. Claim Rejections - 35 U.S.C. § 102**

Claims 1-13 and 19-21 have been rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,509,852 to Tabarelli.

As indicated above, the Applicants have given particular meaning to the term "conforming immersion medium." Flowable liquid immersion mediums do not fall within the Applicant's definition of conforming immersion mediums.

In the claimed methods of making a device using a lithographic system, a conforming immersion medium is in intimate contact with a photo resist layer and a lens of the lithographic system. Tabarelli does not teach or reasonably suggest using a conforming immersion medium that exhibits the ability to maintain an unbroken state when disposed between a lens and a wafer and that maintains an unbroken state (e.g., the medium does not split apart as flowable liquids would) in the presence of a deforming pressure applied on the medium. Rather, Tabarelli discloses various flowable liquid immersion mediums (see column 5, lines 40-58). Additional flowable liquid properties of the disclosed liquids are set forth at column 5, lines 59-65.

As a result, independent claims 1 and 21 define patentable subject matter. The remaining claims depend from claim 1 and recite additional novel and unobvious features. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 is respectfully requested.

**4. Claim Rejections - 35 U.S.C. § 103**

Claims 14-18 have been rejected under 35 U.S.C. § 103(a) over Tabarelli in view of Tholl ("Evaluation of a Technique for the Design and Manufacture of an Off-Axis Holographic Lens in Dichromated Gelatin"), U.S. Patent Application Publication No.

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2004/0224265 to Endo, and Franklin ("Refractive Index Matching: A General Method for Enhancing the Optical Clarity of a Hydrogel Matrix").

Claims 14-18 depend from claim 1 and are patentable for at least the reasons set forth above. In addition, nothing in Tabarelli would motivate one of ordinary skill in the art to use a material other than a flowable liquid as an immersion medium. While Tholl discloses off-axis holographic lenses (Introduction) and Franklin discloses hydrogels for use in biomolecular applications (first paragraph), there is no indication that Tholl's lenses or Franklin's hydrogels have application in a lithography system. Also, there is no indication that either Tholl's lenses or Franklin's hydrogels would work as a conforming immersion medium, even if brought into intimate contact with a photo resist layer and a lithographic system lens as claimed. Accordingly, one of ordinary skill in the art would not attempt to improve lithographic processing by combining Tabarelli with Tholl and/or Franklin.

Endo, at paragraph 42, discloses an immersion medium solution of water having 100 ppm silicone oil. The silicone oil is used as an antifoaming agent. Since the Endo immersion medium is a flowable liquid (see paragraph 38), the immersion medium taught by Endo falls outside the above-described definition of a conforming immersion medium. Accordingly, the combination of Endo with any of the other references would not result in arriving at the claimed invention.

In view of the foregoing, claims 14-18 define patentable subject matter and reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 is respectfully requested

## **5. Conclusion**

It is respectfully submitted that the present application is in condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned representative to expedite prosecution of the present application.

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If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0988, our Order No. H1641.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

By   
M. David Galin; Reg. No. 41,767

1621 Euclid Avenue  
Nineteenth Floor  
Cleveland, Ohio 44115  
Telephone: (216) 621-1113  
Facsimile: (216) 621-6165

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